DIALOG(R)File 352:Derwent WPI

010712966 **Image available**
WPI Acc No: 1996-209921/199621
Related WPI Acc No: 1995-115033; 1995-240210; 1996-268029; 1996-362768; 1996-424862; 1997-385510; 1998-250684
XRPX Acc No: N96-175604
Optical illumination system for calumniating light for high light transmission - has wave guide that accepts light from source and array of microprisms having light input and output surfaces
Patent Assignee: ALLIED-SIGNAL INC (ALLC); HONEYWELL INT INC (HONE)
Inventor: BEESON K W; HOU J; ZIMMERMAN S M
Number of Countries: 026 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9611358	A1	19960418	WO 95US14272	A	19951010	199621	B
AU 9641996	A	19960502	AU 9641996	A	19951010	199632	
TW 278142	A	19960611	TW 95110313	A	19951003	199639	
EP 787271	A1	19970806	EP 95940601	A	19951010	199736	
			WO 95US14272	A	19951010		
JP 10507306	W	19980714	WO 95US14272	A	19951010	199838	
			JP 96512763	A	19951010		
KR 97706468	A	19971103	WO 95US14272	A	19951010	199844	
			KR 97702314	A	19970409		
US 6129439	A	20001010	US 93149219	A	19931105	200052	
			US 94242525	A	19940513		
			US 94321368	A	19941011		
			US 97832324	A	19970326		
EP 787271	B1	20010613	EP 95940601	A	19951010	200134	
			WO 95US14272	A	19951010		
DE 69521326	E	20010719	DE 621326	A	19951010	200148	
			EP 95940601	A	19951010		
			WO 95US14272	A	19951010		

Priority Applications (No Type Date): US 94321368 A 19941011; US 93149219 A 19931105; US 94242525 A 19940513; US 97832324 A 19970326
Cited Patents: 1.Jnl.Ref; DE 2736486; EP 154847; EP 292159; US 5040878; US 5396350
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9611358	A1	E	32	F21V-008/00	
Designated States (National): AU CA CN FI JP KR MX SG					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
AU 9641996	A			F21V-008/00	Based on patent WO 9611358
TW 278142	A			G02B-027/00	
EP 787271	A1	E		F21V-008/00	Based on patent WO 9611358
Designated States (Regional): DE FR GB IT NL					
JP 10507306	W		32	F21V-008/00	Based on patent WO 9611358
KR 97706468	A			F21V-008/00	Based on patent WO 9611358
US 6129439	A			F21V-008/00	CIP of application US 93149219

CIP of application US 94242525
Cont of application US 94321368
CIP of patent US 5396350
CIP of patent US 5428468

EP 787271 B1 E F21V-008/00 Based on patent WO 9611358
Designated States (Regional): DE FR GB IT NL

DE 69521326 E F21V-008/00 Based on patent EP 787271
Based on patent WO 9611358

Abstract (Basic): WO 9611358 A

A light transmitter having a first light accepting surface optically coupled to a first light source, where the light transmitting means transports light emanating from the first light source. A reflector redirects the light comprising an array of microprisms where each microprism comprises a light input surface optically coupled to the light transmitter, with a light output surface distal from the light input surface and has a surface area at least equal to the surface area of the light input surface.

A first pair of oppositely disposed sidewalls are disposed between and contiguous with the light input surface and the light output surface, and at least one of the sidewalls forms a first tilt angle with respect to the normal of the surface of the light transmitter and further comprises at least two planar reflective faces. A second pair of oppositely disposed tilted sidewalls are disposed between and contiguous with the light input surface and the light output surface. The light reflecting through the light transmitter enters the microprisms through the light input surfaces, is redirected by the sidewalls and emerges through the light output surfaces as a spatially directed light source.

ADVANTAGE – Provides energy efficient light source while maintaining narrow profile.

Dwg.1/10

Title Terms: OPTICAL; ILLUMINATE; SYSTEM; LIGHT; HIGH; LIGHT; TRANSMISSION; WAVE; GUIDE; ACCEPT; LIGHT; SOURCE; ARRAY; LIGHT; INPUT; OUTPUT; SURFACE

Derwent Class: P81; Q71

International Patent Class (Main): F21V-008/00; G02B-027/00

International Patent Class (Additional): F21V-005/02; F21V-007/04; G02F-001/13

File Segment: EngPI

中 華 民 國 專 利 公 報 (19)(12)

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(44)中華民國85年(1996)06月11日

發 明 全 9 頁

(51)Int.Cl⁶：G02B27/00
F21V7/04
G02F1/13

(54)名 稱：採用多面體微稜鏡之列陣之照明系統

(21)申請案號：84110313 (22)申請日期：中華民國84年(1995)10月03日

(72)發 明 人：
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史考特·摩爾·伊米門 美國
卡爾·拿恩·比生 美國

(71)申 請 人：
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(74)代 理 人：陳長文 先生

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[57]申請專利範圍：

1. 一種提供空間導向光源之照明總成，包含：

(a)一光線傳送裝置，具有一光學式聯結於一第一光源之第一光線接收表面，其中該光線傳送裝置傳送自該第一光源發出之光線；

(b)反射裝置，用於重新導向該光線，其包含一列微稜鏡，其中各微稜鏡包含：

(i)一光線輸入表面，係光學式聯結於該光學傳送裝置；

(ii)一光線輸出表面，係遠於該光線輸入表面且具有一至少相等於該光線輸入表面者之表面積；

(iii)第一對之相對立側壁，係設於該光線輸出、入表面之間且與之相鄰接，至少一側壁對於該光線傳送裝置之法向表面呈一第一傾角，且其另包含至少二平坦之反射面；及

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(iv)第二對之相對立傾斜側壁，係設於該光線輸出、入表面之間且與之相鄰接；

其中反射經過該光線傳送裝置之該光線係經由該光線輸入表面而進入該微稜鏡，並由該側壁重新導向且經該光線輸出表面而散出成爲一空間導向光源。

2. 根據申請專利範圍第1項之照明總成，其中該第二對側壁之至少一者係對於該光線傳送裝置之法向表面呈一第二傾角。

3. 根據申請專利範圍第2項之照明總成，其中該第二對側壁之至少一者係包含至少二平坦之反射面。

4. 根據申請專利範圍第1項之照明總成，其中該具有至少二平坦面之側壁係呈弧形。

5. 根據申請專利範圍第1項之照明總成，其中該反射裝置另包含一列微透鏡，其中各微稜鏡之輸出係朝向至少一

相對應之微透鏡，且經過該微透鏡之該光線發出成爲一照準之光源。

6. 根據申請專利範圍第5項之照明總成，其中該微稜鏡及微透鏡係由有機聚合物製成。

7. 根據申請專利範圍第1項之照明總成，其中該第一傾角對於該光線傳送裝置之法向表面呈15至50度。

8. 根據申請專利範圍第2項之照明總成，其中該第二傾角係在2至20度之間。

9. 根據申請專利範圍第5項之照明總成，其中該微稜鏡、該微透鏡及光線傳送裝置具有1.45至1.65之折射指數。

10. 根據申請專利範圍第9項之照明總成，其另包含一設於該微稜鏡間之空隙區域，其具有小於該微稜鏡者之折射指數。

圖示簡單說明：

圖1係本發明配合一單一輸入光源之

實例視圖；

圖1A係圖1實例之分解圖；

圖1B係圖1實例之側視圖；

圖2A-2C係用於單一輸入光源之單一微稜鏡另一形狀實例；

圖3係包含一列微透鏡之圖1實例視圖；

圖3A係圖3實例之側視圖；

圖4、4A係單一微透鏡之分解圖；

圖5係本發明配合二輸入光源之另一實例視圖；

圖5A係圖5實例之分解側視圖；

圖6A-6C係使用雙輸入光源之單一微稜鏡另一形狀實例；

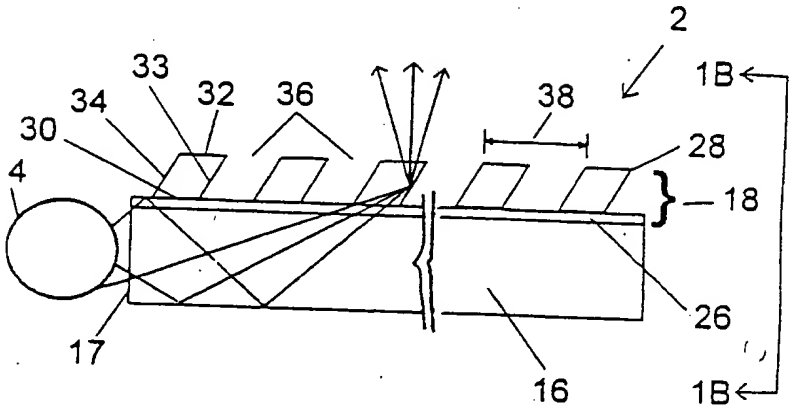
圖7A、7B係使用雙輸入光源之單一微稜鏡另一形狀實例；

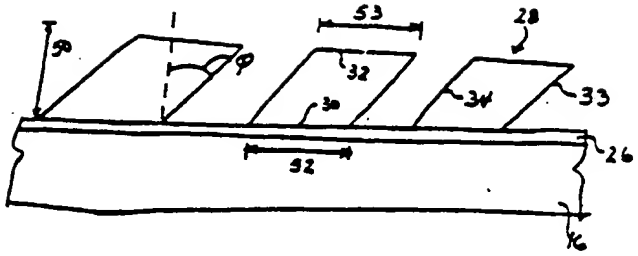
圖8係包含一列微透鏡之圖5實例視圖；

圖9係圖8實例之分解圖；及

圖10係圖5實例之側視圖。

圖一





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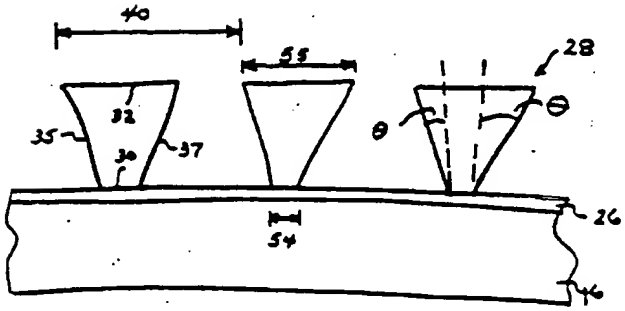

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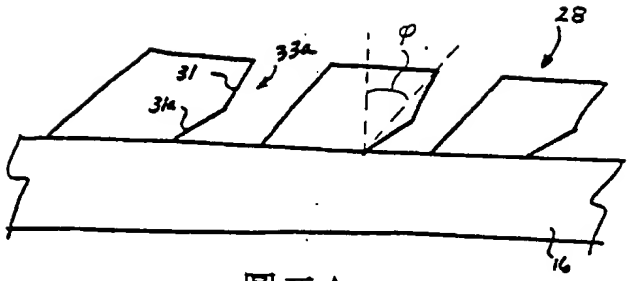

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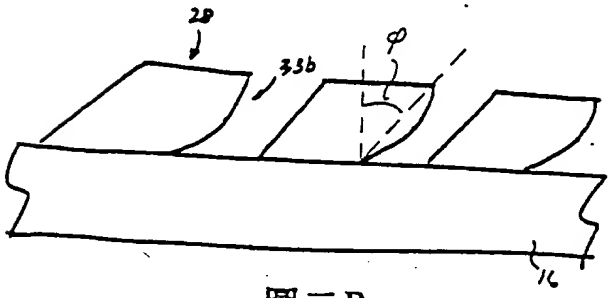

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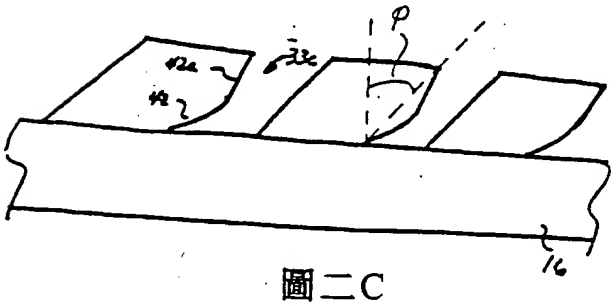
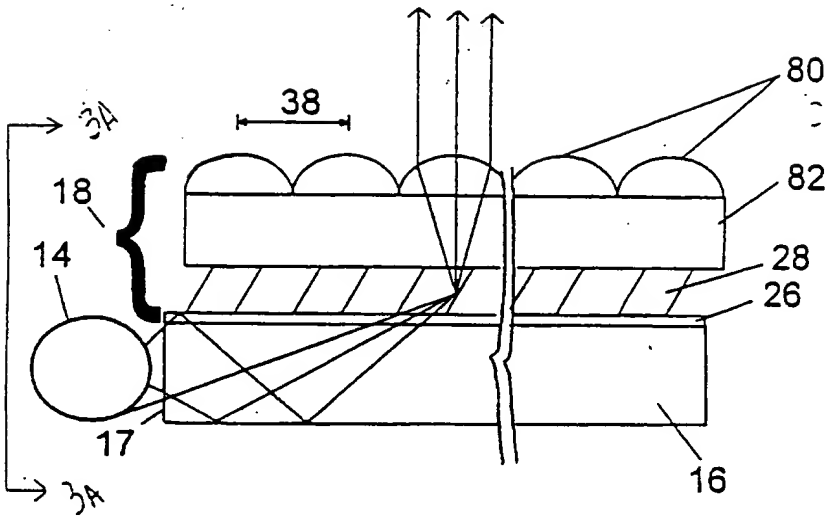


圖二C

圖三



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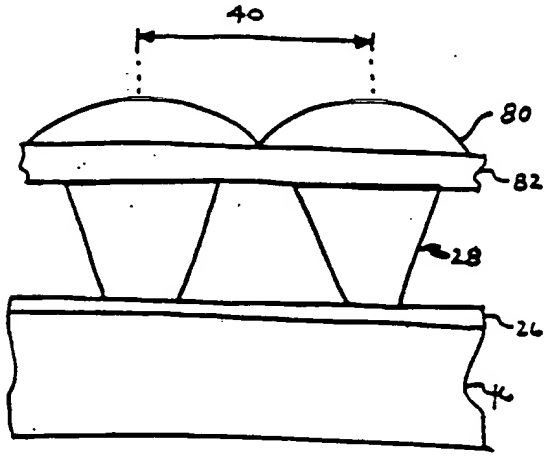

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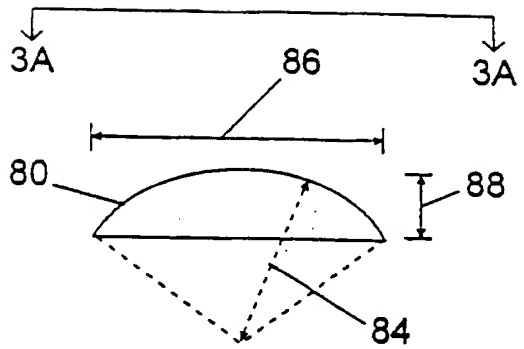
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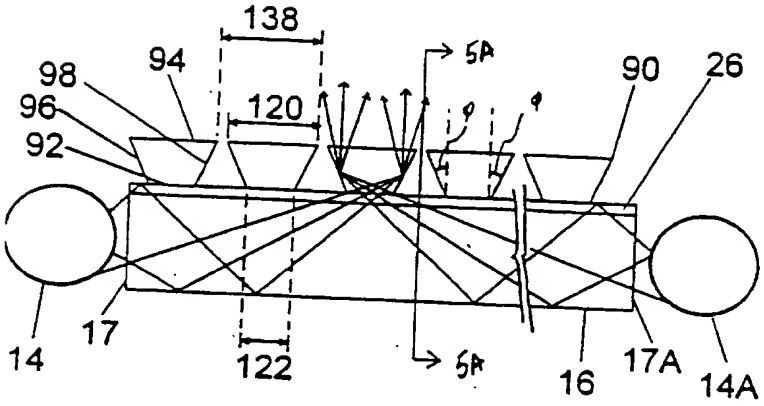
圖四A


87

圖五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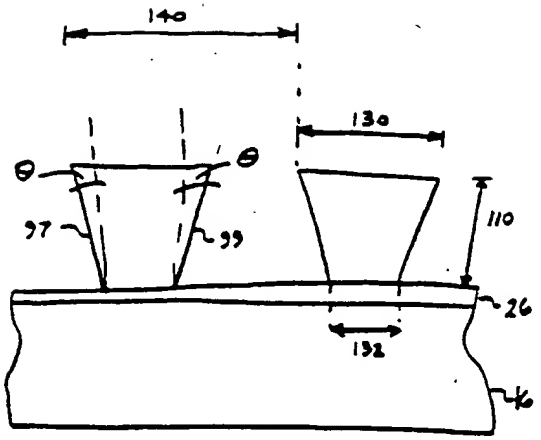

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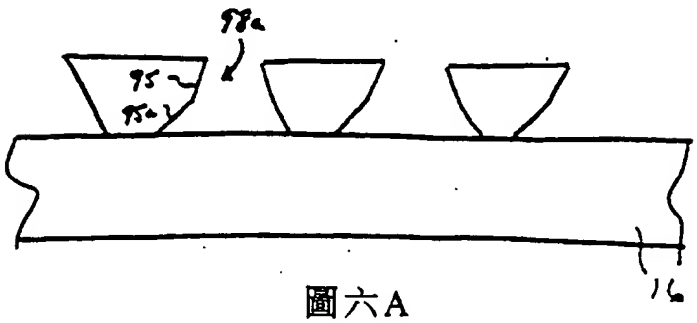

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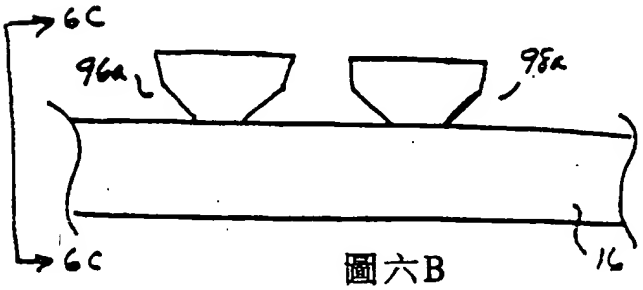

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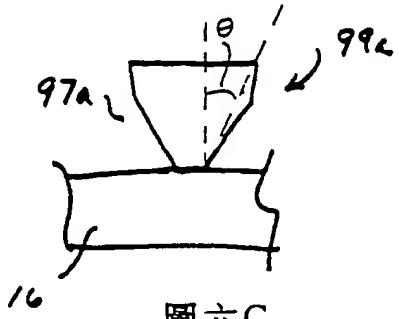

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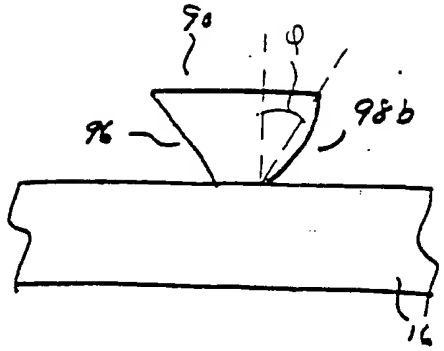

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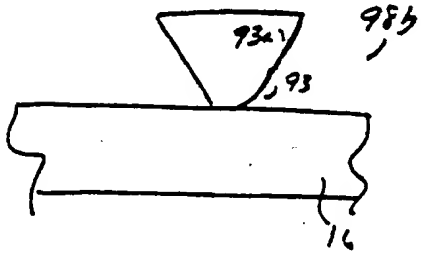

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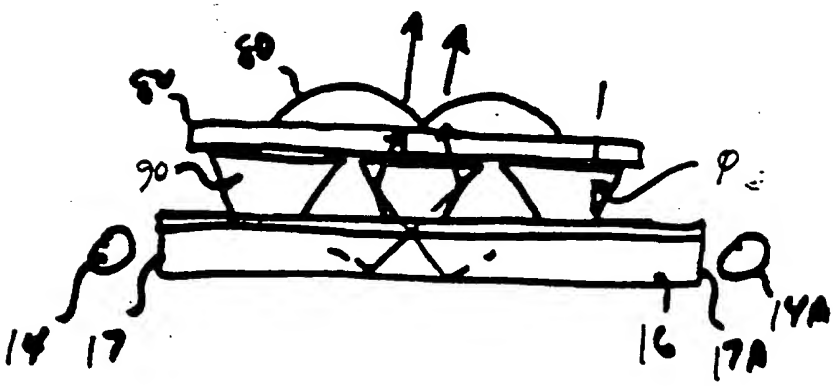

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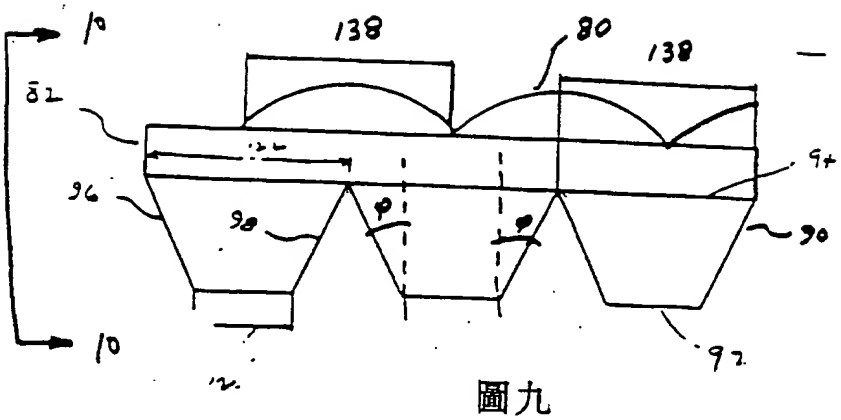
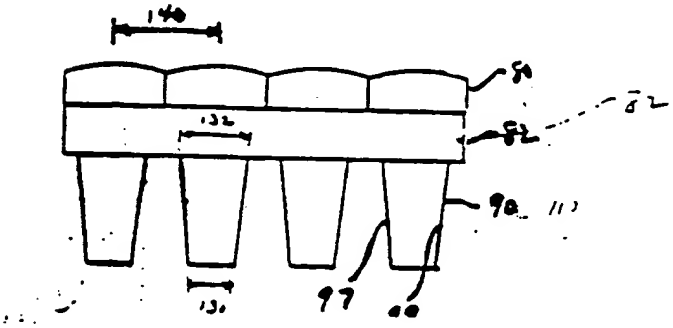


圖九



圖十